REVISED CLAIM 1

A device for the 3D free-form bending of profiles (7) with constant outside dimensions over their length, particularly with a circular shape, wherein said device comprises a feed unit (3) that contains a rotary drive for turning the profile (7) about its longitudinal axis (L) and serves for moving the profile (7) with a longitudinal axis (L) in a feed direction (V) that extends parallel to this longitudinal axis (L), namely through a guide element (1) with a through-opening (1c) that adjoins the surface of the profile (7) and a bending sleeve (5) that at least partially encloses the profile (7) to be bent and is arranged downstream of the guide element (1) referred to the feed direction (V), wherein said bending sleeve is held in a carrier element (4) and can be pivoted about an axis that extends perpendicular to the feed direction (V) of the profile (7), as well as displaced perpendicular to the longitudinal axis (L) and the pivoting axis, together with said carrier element such that the bending sleeve (5) acts upon the profile (7) in a bending fashion, wherein

a) the guide element (1) contains means for supporting the profile (7) such that it can be turned about the longitudinal axis (L) in or with the guide element (1),

b) the bending sleeve (5) contains means for supporting the profile (7) such that it can be turned about the longitudinal axis (L) in or with the bending sleeve (5),

c) the bending sleeve (5) is supported such that it can be eccentrically pivoted about a first hinge point (P_1) of a rocker (4a) by means of the carrier element (4), wherein the rocker (4a), in turn, is supported such that it can be pivoted about a second hinge

point (P_2) that is arranged eccentric to the longitudinal axis (L) of the profile on the same side of the profile as the first hinge point (P_1), and

d) the carrier element is held in a guide groove (2d) on the opposite side of the profile referred to the hinge points (P_1, P_2), namely such that the inner surface region of the bending sleeve (5) that acts upon the outside of the profile (7) in a bending fashion is, discounting the resilience of the profile (7), always aligned tangential referred to a circular arc that corresponds to the respectively desired bending radius when changing the position of the part of the carrier element (4) that is supported in the guide groove (2d).

2. The device according to Claim 1,
characterized in that
the rotatably supported guide element (1) is realized in the form of a guide sleeve (1).

3. The device according to Claim 2,
characterized in that
the guide sleeve (1) is longitudinally divided.

4. The device according to one of Claims 1-3,
characterized in that
the through-opening (1c) of the guide element (1) has a cross-sectional shape that essentially changes continuously in the feed direction (V) such that the guide element (1) acts upon the profile (7) as a shaping tool.

5. The device according to one of Claims 1-4,
characterized in that

the guide element contains a heating device for heating the profile (7).

6. The device according to one of Claims 1-5,
characterized in that
the edges (1d) of the through-opening (1c) of the guide sleeve (1) are rounded on the inlet side and/or the outlet side.

7. The device according to one of Claims 1-6,
characterized in that,
when bending hollow profiles (7), the device contains a bending block (8) for internally supporting the hollow profile (7) during the bending process.

8. The device according to one of Claims 1-7,
characterized in that
the progression of the guide groove (2d) relative to the longitudinal axis (L) of the profile is adjustable.

9. The device according to one of Claims 1-8,
characterized in that
the bending sleeve (5) contains a rotary drive.

10. The device according to one of Claims 1-9,
characterized in that
the bending sleeve (5) completely encloses the profile (7).

11. The device according to one of Claims 1-9,
characterized in that
the bending sleeve (5) is realized in a U-shaped fashion.

12. The device according to one of Claims 1-11,
characterized in that
the edges (5b) of the bending sleeve (5) are rounded on the inlet side and/or the outlet side.

13. The device according to one of Claims 1-12,
characterized in that
the inner surface of the bending sleeve (5) contains a linear or slightly concave region (5c) referred to the longitudinal direction (L) of the profile.

14. The device according to Claim 13,
characterized in that
the linear or slightly concave region (5c) amounts to = 1/5 of the profile diameter when bending a hollow profile (7) with circular cross section.

15. The device according to one of Claims 1-14,
characterized in that
a shaped element (1e) with an adapted through-opening that sectionally corresponds to the cross section of the profile is arranged between the guide element (1) and the bending sleeve (5), namely such that it acts upon the profile (7) as a device for smoothing out wrinkles.

16. The device according to Claim 15,
characterized in that
the shaped element (1e) is realized in the form of an extension of the guide element (1) in the direction of the bending sleeve (5).

17. The device according to Claim 15,

characterized in that
the shaped element (1e) is realized in the form of an extension of the bending sleeve (5) in the direction of the guide element (1).

18. The device according to Claim 15,
characterized in that
the shaped element (1e) is realized in the form of a coil spring, a metal ring or an elastomer ring.